



PPD-T structural composites

Description of Technology: This invention relates to rigid aromatic polyamide (aramid) composites and a process for their preparation.

Patent Listing:

1. **US Patent No. 5,968,598**, Issued October 19, 1999, "PPD-T structural composites"
<http://patft.uspto.gov/netacgi/nph-Parser?Sect2=PTO1&Sect2=HITOFF&p=1&u=%2Fnetacgi%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&d=PALL&RefSrch=yes&Query=PN%2F5968598>

Market Potential: High strength, low weight structural materials are typically prepared by embedding fibers in foams to make a composite. Better performance and less delamination is seen when the fiber and matrix materials are similar in chemical, physical, and thermal properties.

Foam composite materials that are formable, have high strength to weight ratios, good mechanical strength and resistance to degradation at high temperatures in the presence of air have long been sought after. Such foam composites are particularly needed in uses where high temperatures are encountered in structures wherein mechanical strength of the composite is required. Another advantage is offered if the foam composite is machinable. Some uses are flex-circuit heater supports, solar panels (portable), fire walls, aircraft and race car composites, pleasure boats, engine compartments, racing hulls, bulk-heads, air-drop skids, ovens, fire proof fuel storage, fire shields (light weight), light weight (glider) aircraft constructs, hang glider structured parts, helmets, sports protective gear, military equipment, bearings, friction pads in high temp. service, aircraft shipping containers (freight), explosion containment devices, heating pads and food warmers, high temperature pallets, autoclaves and sterilizers.

Benefits:

- High strength, low weight structural materials are typically prepared by embedding fibers in foams to make a composite. Better performance and less delamination is seen when the fiber and matrix materials are similar in chemical, physical, and thermal properties.

Applications:

- Preparation of rigid aromatic polyamide

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